UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,983	09/12/2003	Richard L. Wilder	IGT1P202/P-902	9326

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EXAMINER
RENDON, CHRISTIAN E

ART UNIT	PAPER NUMBER
3714	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>10 June 2008</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>33-67</u> is/are pending in the application.
     4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>33-67</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
     a)☐ All   b)☐ Some *   c)☐ None of:
         1.☐ Certified copies of the priority documents have been received.
         2.☐ Certified copies of the priority documents have been received in Application No. _____.
         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

This office action is in response to the amendment filed on 6/10/08 in which applicant canceled claims

1-32, added claims 33-67, responded to the claim rejections. Claims 33-67 are still pending.

Claim Rejections - 35 USC § 103

Claims 33-43, 45-59 and 61-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ellis (WO 02/32521 A1) in view of Berkel (Image Preparation for 3D-LCD).

1.   Ellis discloses a game for playing on a slot machine that depicts the spinning motion of virtual

slot reels as the transformation of two dimensional (2D) reel images into three dimensional (3D)

objects in motion (Ellis: pg. 5, par. 3, lines 1-8). Ellis describes a participate placing a wager on the

random outcome that is compared to a win table (Ellis: pg. 5, par. 3, lines 9-11). Therefore the slot

machine must contain a value input device to accept the wager and a gaming controller in conjunction

with a memory performing at least the 3D calculations outputted to a 3D display. Ellis is however

silent about the characteristics of the required 3D display.

2.   "Image Preparation for 3D-LCD" will be referred to as "the article" past this point in the Office

Action. The article describes the two major drawbacks found in lenticular displays: Moiré-like effect

and uneven use of horizontal and vertical pixel resolution (Introduction: par. 3, lines 1-5). Berkel

solves both of these problems by slanting the lenticular cylinder lenses that is parallel (fig. 2) to a LCD

at a small angle, α (Introduction: par. 4, lines 1-5). The use of color triplets (Introduction: par.4, lines

11-12), grouping of red, green and blue (RGB) pixels allows Berkel to minimize the width of vertical

RGB stripes (Multi-view Pixel Mapping: par. 9, lines 1-2). Berkel notes that systems of 8 or 9-views

contain smaller color stripe at the cost of a lower pixel count when compared to a 7-view system

(Multi-view Pixel Mapping: par. 9, lines 17-20). The use of a slanted lenses and color triplets

complicates the mapping of a pixel (*x, y*); therefore Berkel requires the following variables and

equations to determine the location and viewing number of a pixel and its sub-pixels:
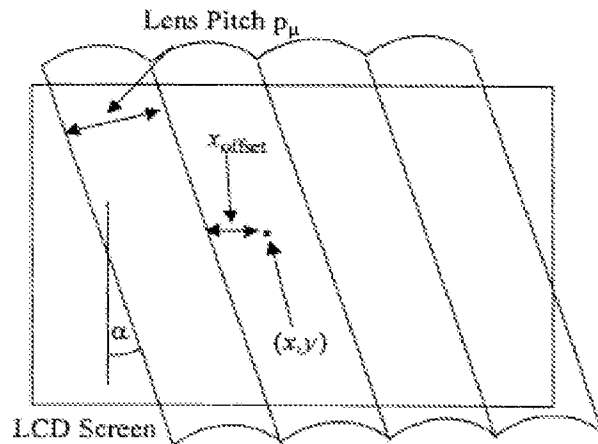
p_u (lens pitch of one lenticular lens) P_h (horizontal pixel pitch)

$$x = kp_h$$ $$y = 3lp_h$$

$$x_{offset} = (x - y\tan\alpha)\mathrm{mod}(\frac{m+1}{m}\frac{p_u}{\cos\alpha})$$

Figure 2 Multiview Pixel Mapping

$$N = \frac{(k + k_{offset} - 3l\tan\alpha)\,\mathrm{mod}\,X}{X}N_{tot}$$

N = the view number for each sub-pixel (k, l), (x, y)

coordinates defined by a horizontal pixel pitch

3.   Regarding claims 33, 45-46, 49 and 65-66, Ellis describes placing a wager towards a random

outcome (Ellis: pg. 5, par. 3, lines 9-11) of a 3D game played on a slot machine. The slot machines

disclosed by Ellis are capable of accessing the internet; therefore the gaming device is in

communication with a server. Even though Ellis remains silent about several expected features found

in slot machines, it is well known in the art of gambling for a slot machine to contain a gaming

controller and memory to operate the game. Furthermore the game described by Ellis requires a 3D

display and Ellis leaves the design decision towards the display to an ordinary artisan. This ordinary

artisan would combine Ellis with a multi-view lenticular display created by Berkel since Ellis rotates a

2D image into 3D space (Ellis: pg. 2, par. 2) and Berkel creates 3D object using a set of 2D images

(Image Preparation – Graphical User Interface: par 4, lines 12-13). Berkel discloses the program

called 'Octopus Multi-view Editor' as providing an intuitive means for mapping a set of images to

create a complete multi-view 3D picture (Image Preparation – Graphical User Interface: par 2).

Therefore providing an ordinary artisan the necessary means to utilize the lenticular display to its

fullest potential. As described above, Berkel teaches the structure of the multi-view display as

positioning a lenticular lens at angle and parallel or juxtaposition to a LCD (fig. 2). As well as, a pixel

mapping algorithm for N number of views for pixel *(x, y)* & sub-pixel (k, l) through the equations found

in this office action.

4.   Regarding claim 34-35 and 50-51, Berkel teaches a pixel mapping algorithm for N perspective

views therefore requiring an N number of images to create a 3D object (Image Preparation –

Graphical User Interface: par 4, lines 12-13).

5.   Regarding claims 36-37, 48, 52-53 and 64, Berkel discloses the design reason towards

utilizing a 9 view system of cylindrical lens (Introduction: par. 2, line 1) over a 7 view system (Multi-

view Pixel Mapping: par. 9, lines 17-20). The image (figure 1) provided depicts the division of a LCD

into 7 regions or views thus interlacing the pixels into one complete image; therefore dividing the total

resolution of the display between a horizontal and vertical resolution to create the different views

(Introduction: par. 4, lines 4-6). For example, in a 7 view system the horizontal resolution of each view

is reduced by a factor 2.5 and the vertical resolution by a factor 3 from the original LCD (Introduction:

par. 4, lines 7-9). Therefore a 9 view system would evenly divide the total resolution between the

horizontal and vertical resolution (Introduction: par. 3, line 5) of each view by a factor of 3 thus a 9

view system is a combination of three horizontal and vertical views.

6.   Regarding claims 38-39 and 54-55, the lenticular reference teaches an equation, x_{offset} that

calculates the proper location of a pixel when taking into consideration the angle, width or pitch and

magnification of the slanted lens. In other words, the reference's x_{offset} equates to the applicant's L

variable. The Examiner is equating the variable C, the selected stereoscopic image as an equation that determines the image or view for location L. Even though the prior art also teaches calculating the view number, N for each sub-pixel (k, l) they are both different. Since both equations fulfill the same task the Examiner will views this difference as a matter of design choice.

7.   Regarding claims 40-43, 56-59 and 67, as stated before Ellis discloses the virtual representation of a mechanical slot machine in 3D when the reels spin. Therefore the prior art teaches at least one wager based game, slots.

8.   Regarding claims 48 and 64, it is well known in the art of optics to apply an anti-reflective coating to the surface of lens to reduce the reflection of light.

Claims 44 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis in view of Berkel and Falconer (US 2003/0060268 A1).

9.   The above description and limitations of the art combination created from Ellis and Berkel are considered within this art rejection as well. Both prior arts fail to mention the use of mechanical and virtual reels. Falconer discloses a slot machine with multiple set of slot reels that are mechanical or video reels (Falconer: par. 4, line 1). The use of 'or' suggests the slot machine can display a combination of mechanical and virtual reels. Therefore at the time of the applicant's filing date the idea of using mechanical and virtual reels simultaneously is known to the art. One of ordinary skill would include a mechanical reel along with the virtual reel to encourage older players to play 3D slots by displaying a familiar feature, mechanical reels.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTIAN E. RENDÓN whose telephone number is (571)272-3117. The examiner can normally be reached on 9 - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Xuan Thai can be reached on 571-272-7147. The fax phone number for the organization where this

application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be obtained

from either Private PAIR or Public PAIR. Status information for unpublished applications is available

through Private PAIR only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the

Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-

786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHRISTIAN E RENDÓN/
Examiner
Art Unit 3714

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 /XUAN M. THAI/
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